Amendment to the Claims:

This listing of claims will replace all prior versions, or listings, of claims in this application.

Listing of Claims

Claims 1-11: Cancelled

12. (Currently Amended) The method of ~~claim 8~~ Claim 23, comprising depositing a quartz epitaxial thin film on the substrate at a rate of about 3 μm per hour.

13. (Currently Amended) The method of ~~claim 8~~ Claim 23, wherein ~~a composition of~~ said quartz epitaxial thin film consists essentially of quartz.

14. (Currently Amended) The method of ~~claim 8~~ Claim 23, wherein the substrate is sapphire, silicon or GaAs.

15. (Currently Amended) The method of ~~claim 8~~ Claim 23, wherein the source of silicon is heated to a temperature of 50° C to 120° C.

16. (Currently Amended) The method of ~~claim 15~~ Claim 23, wherein a temperature of a growth area, for depositing the quartz on the substrate, ranges from 550° C to 850° C.

17. (Currently Amended) The method of ~~claim 8~~ Claim 23, wherein said quartz epitaxial thin film is characterized by an X-ray diffraction profile exhibiting a diffraction peak at 2Θ=50.6°.

18. (Canceled)

19. (Currently Amended) The method of ~~claim 8~~ Claim 23, wherein an inert gas is employed as a carrier gas to introduce said source of silicon into a growth area.

20. (Currently Amended) The method of ~~Claim 19~~ Claim 23, wherein the oxygen partial pressure is 0.1 to 0.3 atm, in the growth area.

21. (Canceled)

22. (Currently Amended) The method of ~~claim 22~~ 25, wherein the buffer layer is formed by depositing quartz at 550° C and annealing the deposited quartz.

23. (New) A method for producing a quartz epitaxial thin film on a substrate, said method comprising:

providing a substrate;

vaporizing, under atmospheric pressure, a source of silicon selected from the group consisting of tetramethoxysilane, tetraethoxysilane, tetrapropoxysilane and tetrabutoxysilane;

depositing quartz on said substrate using a catalyst, which is hydrogen chloride, to promote a reaction of the silicon source with oxygen, thereby forming the quartz epitaxial thin film.

24. (New) A method for producing a quartz epitaxial thin film on a substrate, said method comprising:

providing a substrate;

forming a buffer layer of GaN or ZnO on the substrate;

vaporizing, under atmospheric pressure, a source of silicon selected from the group consisting of tetramethoxysilane, tetraethoxysilane, tetrapropoxysilane and tetrabutoxysilane;

depositing quartz on said buffer layer using a catalyst, which is hydrogen chloride, to promote a reaction of the silicon source with oxygen, thereby forming said quartz epitaxial thin film.

25. (New) A method for producing a quartz epitaxial thin film on a substrate, said method comprising:

providing a substrate;

forming a crystal buffer layer of quartz on the substrate;

vaporizing, under atmospheric pressure, a source of silicon selected from the group consisting of tetramethoxysilane, tetraethoxysilane, tetrapropoxysilane and tetrabutoxysilane;

depositing quartz on said buffer layer using catalyst, which is hydrogen chloride, to promote a reaction of the silicon source with oxygen, thereby forming said quartz epitaxial thin film.

26. (New) The method of Claim 24, comprising producing the quartz epitaxial thin film on the substrate or the buffer layer at a rate of about 3 μm per hour.

27. (New) The method of Claim 24, wherein the quartz epitaxial thin film consists essentially of quartz.

28. (New) The method of Claim 24, wherein the substrate is sapphire, silicon or GaAs.

29. (New) The method of Claim 24, wherein the source of silicon is heated to a temperature of 50° C to 120° C.

30. (New) The method of Claim 24, wherein a temperature of a growth area, for depositing the quartz on the substrate, ranges from 550° C to 850° C.

31. (New) The method of Claim 24, wherein said quartz epitaxial thin film is characterized by an X-ray diffraction profile exhibiting a diffraction peak at $2\Theta=50.6°$.

32. (New) The method of Claim 24, wherein an inert gas is employed as a carrier gas to introduce said source of silicon into a growth area.

33. (New) The method of Claim 24, wherein the oxygen partial pressure is 0.1 to 0.3 atm, in the growth area.

34. (New) The method of Claim 25, comprising producing a quartz epitaxial thin film on the substrate or the buffer layer at a rate of about 3 μm per hour.

35. (New) The method of Claim 25, wherein the epitaxial thin film consists essentially of quartz.

36. (New) The method of Claim 25, wherein the substrate is sapphire, silicon or GaAs.

37. (New) The method of Claim 25, wherein the source of silicon is heated to a temperature of 50° C to 120° C.

38. (New) The method of Claim 25, wherein a temperature of a growth area, for depositing the quartz on the substrate, ranges from 550° C to 850° C.

39. (New) The method of Claim 25, wherein said quartz epitaxial thin film is characterized by an X-ray diffraction profile exhibiting a diffraction peak at $2\Theta=50.6°$.

40. (New) The method of Claim 25, wherein an inert gas is employed as a carrier gas to introduce said source of silicon into a growth area.

41. (New) The method of Claim 25, wherein the oxygen partial pressure is 0.1 to 0.3 atm, in the growth area.